

# LOW-IMPACT METHOD AND APPARATUS FOR MAINTAINING NETWORK ACCESS SERVERS

## ABSTRACT

5 The disclosed method and apparatus are for performing maintenance on a network  
access server having associated channels, the network access server being operatively  
coupled with a service request router, e.g. a telephone company (telco) switch. The method  
includes first determining whether off-line maintenance is needed on a network access server  
and if so then communicating a busy condition of any associated channel from the network  
10 access server to the telco switch. The method further includes monitoring any used  
associated channel until the used associated channel becomes unused. Thereafter,  
maintenance may be performed on the network access server. After completion of the  
maintenance, the method includes communicating an idle condition of any associated channel  
to the telco switch. For the duration of the maintenance on the given access server, new  
15 client service requests that may arrive during a busy condition of the network access server  
are auto-routed to another network access server operatively coupled with the telco switch.

The apparatus includes a maintenance scheduler for scheduling off-line maintenance  
for a given network access server. It further includes a channel usage monitor responsive to  
the scheduler for monitoring usage of the associated channels of the given network access  
20 server. Finally, a make-busy mechanism is provided that is responsive to the channel usage  
monitor and coupled with the telco switch. The make-busy mechanism signals the telco  
switch that all channels are busy, whereby maintenance is performed on the given network  
access server after the signaling and upon a determination by said channel usage monitor that  
no channel is currently in use. There is thus no discernible impact of maintenance on current  
25 or future users/clients, and maintenance may be scheduled even during peak use hours of  
operation of the network.

Sub  
AI

09/431357